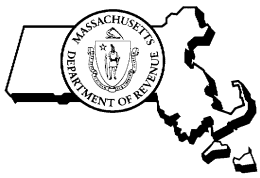
Massachusetts Department of Revenue *Division of Local Services*
Navjeet K. Bal, Commissioner *Robert G. Nunes, Deputy Commissioner & Director of Municipal Affairs*



ASSESSMENT CERTIFICATION AND FIELD REVIEW MANUAL

Documentation and Spreadsheet Specifications

Prepared by the Bureau of Local Assessment
Revised February 2009

http://www.mass.gov/dls

BUREAU OF LOCAL ASSESSMENT

CERTIFICATION REVIEW DOCUMENTATION

Revised 02/2009

I. For your certification review the Bureau of Local Assessment requests that the information outlined in this publication be made available to your community advisor. Samples of suggested spreadsheet column headings are included in Section II. It is recommended that these data characteristics be included on the certification review spreadsheets. If you think any of them are not relevant or if any other characteristics should be included, you may delete or add to the list, however consult your BLA advisor prior to making these changes. Your advisor will schedule a meeting to assist you in planning for the review. At that time, you should discuss the specific spreadsheet content appropriate for your municipality.

A. ANALYSIS SPREADSHEETS

1. LAND VALUATION

This spreadsheet displays data on vacant land sales or alternate indicators of value as the supporting documentation of the proposed land pricing schedule. The use of alternate land valuation methods, such as residuals, abstractions, allocations etc., may be necessary if sufficient land sales do not exist. It should be sorted by the different land pricing stratifications, such as neighborhood, site index, lot size, front foot, secondary lots, etc. It should be noted that any unique combination of factors is to be considered a neighborhood unto itself and should be analyzed as such. Spreadsheets should contain sufficient data to document each one of the various land stratifications used. A general rule of thumb is that 10 to 20 sales or alternate indicators of value are needed in each stratification of the land schedule.
(See Section II - Land Valuation Analysis Spreadsheets)

2. IMPROVED PROPERTY VALUATION -- ASSESSMENT SALES RATIO STUDIES

Assessment sales ratio studies are an important part of the valuation process. They are used to determine the level of assessment and the uniformity produced by the valuation system. Depending on the nature of the community and the number of sales available for analysis, the type of ratio studies may vary. At a minimum, they should be conducted on the following property stratifications: (See Section II – Assessment Ratio Study Information)

a) state class code
b) building style
c) age groups
d) sales price quartile
e) neighborhood and/or site index
f) other influences, i.e. water view, traffic, etc.

The results of each study should include:

a) median
b) coefficient of dispersion
c) count

Assessors should refer to the relevant sections of the Division's *Guidelines for The Development of A Minimum Reassessment Program.*

3. ECONOMIC RENT, INCOME, EXPENSE, AND CAPITALIZATION RATE

The first of these spreadsheets is used to document the development of proposed rents, vacancy and expense adjustments. It should be sorted by the various uses, and should contain sufficient information to support the proposed economic rent, vacancy and expense adjustments for each property type. The second spreadsheet is development of market capitalization rates for each commercial, industrial, mixed-use and residential property use valued by the income approach. (See Section II – C&I Development (or Apartment) Development of Economic Rent, Income and Expense Analysis & Overall Market Capitalization Development)

B. REVIEW SPREADSHEETS

1. LAND

This spreadsheet is used to review the consistent application of the land valuation schedules and adjustments to them. (See, Section II – Land Review Spreadsheet)

2. RESIDENTIAL

This spreadsheet is used to review the final proposed values of the property use classes 101,104,105,106,109,130,131,132 and 111(if applicable). You and the advisor should decide beforehand how it is to be sorted, i.e., by parcel ID, street, style, neighborhood, etc.
(See Section II – Residential Review Spreadsheet)

3. COMMERCIAL, INDUSTRIAL, MIXED USE, APARTMENTS (111-112)

Two spreadsheets are used for this review. The first is for the review of the required two approaches to value. It should contain information on the correlation between the approaches, final one selected, the property sales, and the differences between the previous and the proposed values. The second spreadsheet presents the basic data used in the development of each valuation approach. (See Section II – Commercial, Industrial, Mixed Use and Apartment Review & Income Detail Spreadsheets)

4. CONDOMINIUM REVIEW

This spreadsheet is used to review the final proposed values of residential condominiums. You and the advisor should decide beforehand how it is to be sorted (by complex name, type of unit, size, common interest percentage, etc.). (See Section II – Residential Condominium Review Spreadsheet)

NOTE: On a spreadsheet, when a value percent difference is requested, subtract the prior value from the proposed value and divide the result by the prior value.

Example:	Proposed Value:	170,000	
	Prior Value:	150,000	
	Difference:	20,000	20,000 divided by 150,000 = .13 or 13%

C. NEIGHBORHOOD MAP

A neighborhood map must be prepared which clearly delineates different neighborhoods (or other location variable, such as site index, sub-neighborhoods or modifiers) used in the valuation program. If more than one land pricing is used in a neighborhood, these adjustments must be indicated on the map, with the various base land prices written in each of the neighborhoods or sub-neighborhoods.

D. LAND SCHEDULE

The assessor must provide the methodology of how the land pricing was developed and the analysis should be discussed in a brief narrative. A copy of the various land pricing schedules and land pricing instructions must be provided, indicating the categories used in that schedule (primary, secondary, front foot, excess, residual, wetland, etc.). The land schedule must be supplied in Excel format. (**See Form Land 1**). For the primary land segment, the values of the different land size increments must be shown for each different base land price. These increments should continue up to the **maximum size** covered by that schedule. For the other portions of the land pricing schedule, such as secondary, residual, etc., the unit prices must be shown. If any adjustments to the base schedules are used, an explanation of each adjustment and the ranges used should be listed.

E. BUILDING PRICING SCHEDULES

A copy of all cost or market based schedules must be made available. If the cost approach is used, then all cost pricing schedules, the depreciation schedules, and supporting documentation should be made available. Any factors used to adjust values from the base schedules must be separately documented. Documentation for the direct market, sales comparison approach, with multiple regression or feedback, is addressed in a later section.

F. INCOME APPROACH SCHEDULES

A copy of the schedule of economic rents, vacancy and expense adjustments, and capitalization rates must be supplied. It should also contain all explanations for the various economic rents, along with vacancy and expense adjustments for specific uses. Any factors used to adjust values from the base schedules should be separately documented. If a method to develop the capitalization rate other than market is used (which is documented in the income and expense analysis spreadsheet), then documentation for each rate and method used in the community should be included.

G. DIRECT MARKET APPROACH DOCUMENTATION

If the community is using any form of direct market valuation, such as regression analysis, feedback, or comparable selection and analysis, documentation should include:

1. a detailed description of the methods

2. identification of the software used in the statistical analysis and value generation process

3. statistics produced to evaluate the effectiveness and validity of the on-going and final modeling process

4. rationale for inclusion and/or exclusion of variables in the modeling process (emphasis should be placed on the variables traditionally used in the mass appraisal process)

5. methods used to "decompose" the model into land and building values

6. methods used to explain the model and modeling process to taxpayers

Multiple Regression Analysis Minimum Documentation

The following items are needed for the Bureau to properly evaluate the regression modeling process:

1. definition of neighborhoods and/or modeling regions
2. narrative overview of the modeling process
3. description of process data stratification and sub-model development
4. definitions of all data elements
5. definitions of data transformations
7. methods used in time adjusting sales
8. appropriate statistics and program outputs used in the modeling process:

    a) coefficient of determination (R2)
    b) standard error of the estimate
    c) coefficient of variation (COV)
    d) average percentage error
    e) F statistic
    g) residuals, or plotback report
    h) distribution analysis of variables & candidate variables

8. data editing methodology
9. sales screening methods, including documentation for sales reported on the sales reports (LA-3) but excluded from modeling process.

H. PERSONAL PROPERTY

Forms of List and data sheets with account detail must be made available for review by the advisor. Visit history should be apparent on the detail sheet. Documentation must include copies of the cost and depreciation tables, and review spreadsheets that include at a minimum business name, location, owners name, prior value and proposed value containing the % change in value. The detail sheet should include, at a minimum, business name, class, location, owner's name, prior value – including a detail of each taxable item [item description, status (new or existing), age, RCN, depreciation, depreciated value] and proposed value. A previous to current value report should be provided. A detailed analysis of the second home study must be provided if applicable.

I. EXEMPT PROPERTY

Documentation for review of this property class should be discussed with the certification advisor during the planning meeting.

Note: USE OF ELECTRONIC DATA

All data and documentation should be submitted electronically via email or provide a CD drive (or USB port on site). Please contact your certification advisor to determine the appropriate electronic and data formats.

SECTION II

Recommended Spreadsheet Headings

LAND VALUATION ANALYSIS SPREADSHEETS

VACANT LAND STUDY (Prior A-1a)

Map, block, lot
Street number
Street name
State use code
Zoning
Neighborhood identification
Date of Sale
Sale Price
Time Adjusted Sale Price (if indicated)
Total land area
Proposed assessed land value from the schedule
Ratio of proposed land assessment/sale price (or TASP)
Prior FY assessed land value
Value change % [(proposed assessed value - prior assessed value) ÷ prior assessed value]

"P" CODE VACANT LAND STUDY

Map, block, lot
Street number
Street name
State use code
Zoning
Neighborhood identification
Date of Sale
Sale Price
Time Adjusted Sale Price (if indicated)
Total land area
Proposed assessed land value from the schedule
Ratio of proposed **land assessment**/sale price (or TASP)
Prior FY assessed land value
Value change percent [(proposed assessed value - prior assessed value) ÷ prior assessed value]

*"P" code sale refers to a sale of improved parcel that was classified and valued as vacant land at time of sale; valued as improved parcel for as of January 1st.

LAND VALUATION ANALYSIS SPREADSHEETS

LAND RESIDUAL SPREADSHEET (Prior A-1a2 & A –1a3)

Map, block, lot
Street number
Street name
State Use Code
Zoning (if applied)
Neighborhood
Neighborhood location factor
Style
SFLA
Grade
Actual Year Built
Effective Year Built
Depreciation %
Sale Date
Sale Price
Time Adjusted Sale Price (if indicated)
Total Improved Building value: (RCNLD)* plus Outbuildings & Extra features
Total land area
Land Influence adjustments
Indicated Market value: (Sale Price (or TASP) – Total Improved Building Value)
Proposed land value from land schedule
Ratio of Proposed land value / Indicated land residual value (%)
Absolute dispersion
Prior FY assessed land value
Value change %: [(proposed land value – prior assessed land value) ÷ prior land value]

- ✓ Note: Indicated land residuals are to be at 100% assessment level. Improved building values must represent up to date cost tables as of the date of value - Jan. 1st.

- ✓ The statistical requirement for the **overall land residual** must be between 90 to 110 median ASR with COD LT or EQ to 20%. The median ASR must be within 5 points of the major class for the community.

Sub-stratification studies of residuals should also include the following:

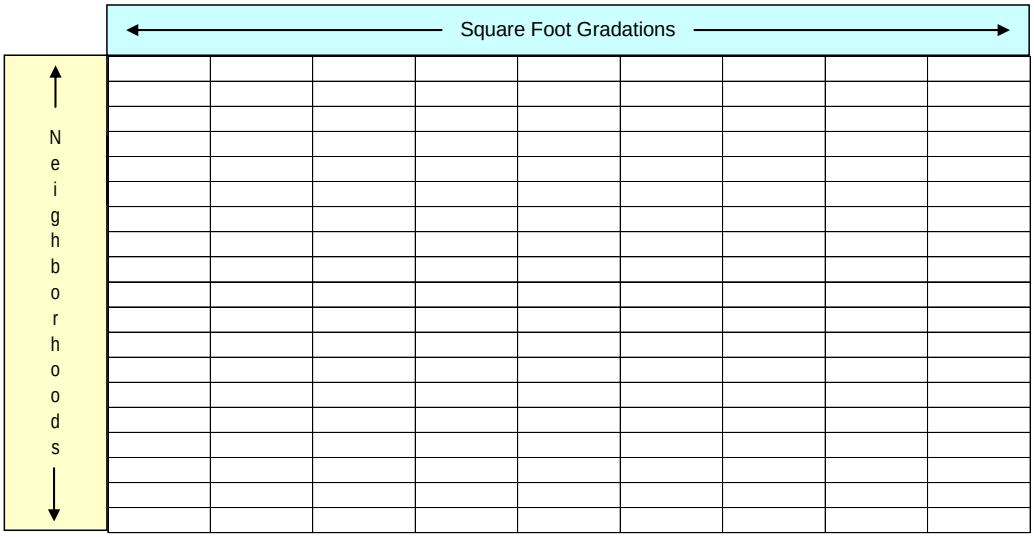
1. Land Residual Analysis stratified by neighborhood (or site index).
2. Land Residual stratified by the following lot size
    i. 1st stratification with sale parcels at or below the standard lot size or zoning if applied.
    ii. 2nd stratification with sale parcels over the standard lot size or zoning if applied.
    iii. 3rd stratification with sale parcels over the standard lot size (or zoning) by neighborhood if excess varies by neighborhood.
3. The median ASR of the sub-studies must be within 5 points of the overall land residual for the community.

LAND SCHEDULE (EXCEL FORMAT) - FORM LAND 1

Form Land 1

Format for Land Schedule Submission

Submission is to be made in Excel Format



Square Foot Gradations should be incremental and have a range extending up to the maxim square footage required for a primary lot within each neighborhood.

A. Gradation intervals should contain, at least, principle break points as applicable to the municipality. These could be 1000sf, 2000sf, 2500sf or other intervals as applicable to the zoning or custom.
B. If the size of the prime lot varies by zoning and zoning can vary within a neighborhood then the schedule should separate each neighborhood into the various allowable zones.
If a neighborhood has two separate zones then it should be broken down into two separate lines.
{For example: Neighborhood 3, Zone 10,000sf should be one line and Neighborhood 3, Zone 20,000sf should be another line}

LAND VALUATION ANALYSIS SPREADSHEETS

COMMERCIAL & INDUSTRIAL INCOME APPROACH RESIDUAL METHOD (Prior A-1b)

Map, block, lot
Street number
Street name
State (prime) use code
Commercial NBHD
Commercial Location Factor
GBA
Leased Area (Rentable area)
Potential Gross Income
Vacancy percent
Expenses percent
Net operating income (NOI)
Capitalization rate
Proposed Income value
Building value (RCNLD)
Indicated income land residual value (total income value - total building values)
Total land area
Land Influence adjustments
Proposed land value from land schedule
Ratio of proposed land value / indicated income land residual value (%)
Absolute Dispersion
Prior land value
Value change % [(proposed land value – prior value) ÷ prior value]

APARTMENT UNITS INCOME RESIDUAL METHOD (Prior A-1c)

Map, block, lot
Street number
Street name
State use code
Neighborhood
Neighborhood Location Factor
Number of units on parcel
Potential Gross Income
Vacancy percent
Expenses percent
Net operating income (NOI)
Capitalization rate
Proposed income value
Building value (RCNLD)
Indicated income residual land value (total income value - total building values)
Total land area
Land Influence Adjustments
Proposed land value
Proposed unit value (proposed land value ÷ number of units)
Ratio of proposed land value / land residual value (%)
Absolute Dispersion
Prior land value
Value change % [(proposed land value - prior land value) ÷ prior land value]

ASSESSMENT RATIO STUDY INFORMATION (prior A-2)

ASR studies should include the following fields:

Map, block, lot
Street number
Street name
State use code
Neighborhood identification or Site Index
Total land area
Style
Story height
Grade
Total square feet of living area
Actual year built
Effective year built
Condition
Depreciation (%)
Date of Sale
Sale Price
Time Adjusted Sale Price (if indicated)
Total land area
Proposed assessed value
Assessment Sale Ratio [proposed assessment/sale price (or TASP)]
Absolute Dispersion

Assessment ratio studies should be conducted by the following listed stratifications.

1. By State Use Code
2. Building style
3. Age group
4. Sales price quartile
5. Neighborhood/site index

For each stratification, a median, mean and COD should be calculated.

There may be other appropriate sorts, such as lot size along with neighborhood or by itself, building size along with style or by itself, age (either effective or actual, depending on which one is relevant) etc. If you feel that the listed ones are not relevant or that others may be needed, please discuss with your BLA advisor.

C&I DEVELOPMENT OF ECONOMIC RENT, INCOME AND EXPENSE ANALYSIS (Prior A-3a)

Map, block, lot
Street number
Street name
Commercial NBHD
State Use code
Tenant Use Code
Initial lease date
Lease term
Leased Area (Gross or rentable area)
Annual Rent
Actual square foot rent
Actual vacancy percent
Actual expenses
Actual expense percent
Other income
Indicated net operating income (NOI)
Comments

This spreadsheet should be sorted by state use code

OVERALL MARKET CAPITALIZATION RATE DEVELOPMENT SPREADSHEET

Map, block, lot
Street number
Street name
Commercial NBHD
Use Code at time of sale
Leased Area (Gross or rentable area)
Reported Annual Income
Gross Income/PSF
Reported vacancy percent
Reported expenses or percent
Expenses/PSF
Indicated net operating income (NOI)
Date of sale
Sale Price
Indicated Overall Cap Rate* (NOI / Sale Price)

APARTMENT DEVELOPMENT OF ECONOMIC RENT, INCOME AND EXPENSE ANALYSIS (Prior A-3b)

Map, block, lot
Street number
Street name
State use code
Bedroom count
Number of units*
Rent per unit*
Gross rent*
Actual vacancy percent
Actual expenses percent
Indicated Net Operating Income (NOI)
Comments

* This spreadsheet should be sorted by state class code (111, 112, 121, 125, ETC.) and unit type.

APARTMENT OVERALL MARKET CAPITALIZATION RATE DEVELOPMENT SPREADSHEET

Map, block, lot
Street number
Street name
Use code at Time of Sale
Number of units*
Reported Annual Income
Gross Income/Unit
Actual vacancy percent
Reported Actual Expenses or percent
Expenses per Unit
Indicated net operating income (NOI)
Date of sale
Sale Price
Overall cap rate* (NOI / Sale Price)

LAND REVIEW SPREADSHEET (Prior B-1)

Map, block, lot (combined in one field)
Street number
Street name
Neighborhood identification or Site Index
Zoning if applied
State use code
Total land area
Segment land type (e.g., primary, secondary, residual, front foot, etc.)
Land segment size
Base Unit value - primary base value per square foot or acre
Primary site influence adjustments – **Provide as many columns as needed to list factors separately**
Final unit value after adjustment
Land segment value
Total land value
Sale date
Sale price
Time Adjusted Sale Price (If indicated)
Sale code (non-arms length)
Assessment/sale ratio [proposed assessment/sale price (or TASP)]
Prior assessed land value
Value change % (proposed land value - prior land value) ÷ prior land value]

Note: All classes of property could, if desired, be included on one spreadsheet or each class could be presented separately. Please discuss with BLA Advisor.

RESIDENTIAL REVIEW SPREADSHEET (Prior B2)

Map, block, lot (combined in one field)
State use code
Neighborhood code
Street number
Street name
Style
Story height
Grade
Total square feet of living area
Actual year built
Effective year built
Condition
RCN
Depreciation:
- Physical - percent
- Functional - percent (document reason for adjustment)
- Economic - percent (document reason for adjustment)

Market adjustments -- type
RCNLD - replacement cost new less depreciation
Total land area
Land value
Total detached structure value
Sale date
Sale price
Time Adjusted Sale Price (If indicated)
Sale code (non-arms length)
Assessment/sale ratio [proposed assessment/sale price (or TASP)]
Total assessed value
Prior assessed value
Value change % [(proposed value - prior value) ÷ prior value]

COMMERCIAL, INDUSTRIAL, MIXED-USE AND APARTMENTS REVIEW SPREADSHEET

(Prior B-3a)

Map, block, lot
Street number
Street name
State use code
Total leasable area (units, GFLA, etc.)
RCNLD
Detached structure value
Land area
Total land value
Proposed value -- cost approach or market adjusted cost
Proposed value -- income approach value
Proposed value -- market approach value (if applicable)
Sale date
Sale price
Time Adjusted Sale Price (If indicated)
Sale code (non-arms length)
Assessment/sale ratio [proposed assessment/sale price (or TASP)]
Final proposed assessed value (by whatever approach used)
Final proposed value per square foot (land and building) or units or beds
Assessment/sale ratio
Value change % [(proposed value – prior value) ÷ prior value]
Correlation percent of the two (2) approaches to value

NOTE:

1. This is the first of two spreadsheets for this portion of the review process. They should be used for the property classes 013, 031, 111, 112, 121, etc., all 300s & 400s.

2. The two main approaches to value, if applicable, should be shown in this spreadsheet. If only one approach is used, or if all three are used, then that should also be reflected.

COMMERCIAL, INDUSTRIAL, MIXED-USE AND APARTMENTS INCOME DETAIL SPREADSHEET (Prior B-3b)

To be used for the property class codes 013-031, 112-121 etc., 300's and 400's and 111's (as applicable)

Map block lot
Street number
Street name
State use code
Neighborhood or Location Factor
Grade
Condition
Year built (actual or effective)
Gross building area
Leased Area (Gross or rentable area)
Number of units (apartment) or unit square feet*
Number of bedrooms*
Use*
Economic rent*
Gross rent*
Vacancy percent
Expenses percent
Net operating income (NOI)
Capitalization rate percent
RCNLD
Detached structure value
Land area
Total land value
Income Value
Final proposed assessed value

*broken down by each type as applicable

RESIDENTIAL CONDOMINIUM REVIEW SPREADSHEET (Prior B-4)

Map, block, lot
Unit #
Complex address or name
Condo style
Story height of unit
Floor number--basement, 1st floor, 2nd floor, townhouse
Percent common interest
Condition
Grade
Year built (actual or effective)
Market adjustment
Total square feet of living area
Total room number
Total bedroom number
Total bath number
Total half bath number
Extra fixtures
Basement finished area or basement recreational area
Complex amenities
Location adjustments
Proposed assessed value of unit
Assessed value per square foot
Date of sale
Sale Price
Time Adjusted Sale Price (if indicated)
Sale price per square foot
Sale code (non-arms length)
Assessment/sale ratio [proposed assessment/sale price (or TASP)]
Previous or old assessed value of unit
Value change percent [(proposed unit value - old unit value) ÷ old unit value]

PERSONAL PROPERTY

Previous to Current Value Report

Account Number
Business Name (or DBA)
Owners Name
Location
State class
    Machinery Total Value
    Furniture and Fixtures Total Value
    Inventory Total Value
Proposed Total Value
Prior Total Value
Value change % [(proposed value – prior value) ÷ prior value]

Second Home Study (Allocation Study)

Account Number
Parcel ID
Location
Personal Property Reported Value
Assessed Building Value
Allocation Ratio (Personal Property Reported Value/ Assessed Building Value)
Proposed Value

The results of the study should include:

a) mean (average) ratio
b) Median Ratio
c) standard deviation
d) count